Stantec Analytical Validation Checklist Report No. ATG19

Project Name: Amtrak North Yard	Project Number: 213402048
Validator: Jim Tezak	Laboratory: Eurofins/Lancaster Laboratory
Date Validated: 11/30/2018	Laboratory Project Number: 1814578
Sample Start-End Date: 6/16/2017	Laboratory Report Date: 7/24/2017

Parameters Validated:

Polychlorinated biphenyls (PCBs) by EPA SW-846 3550B/8082A - solid matrix

Percent Solids by SM 2540 G

Samples Validated (all Grab Soil):

E-5(4.0-4.3), LLI # 9054507
E-5(4.5-4.8), LLI # 9054508
E-5(5.0-5.3), LLI # 9054509
E-5(5.5-5.8), LLI # 9054510
E-5(6.0-6.3), LLI # 9054511
DUP-40, LLI # 9054512
E-5(6.5-6.8), LLI # 9054513
E-5(6.5-6.8)MS, LLI # 9054514
E-5(6.5-6.8)MSD, LLI # 9054515
E-6(0.0-0.3), LLI # 9054516
E-6(0.5-0.8), LLI # 9054517
E-6(1.0-1.3), LLI # 9054518
E-6(1.5-1.8), LLI # 9054519
E-6(2.0-2.3), LLI # 9054520
E-6(2.5-2.8), LLI # 9054521
E-6(3.0-3.3), LLI # 9054522
E-6(3.5-3.8), LLI # 9054523
E-6(4.0-4.3), LLI # 9054524
E-6(4.5-4.8), LLI # 9054525
E-6(5.0-5.3), LLI # 9054526

VALIDATION CRITERIA CHECK

Validation Flags Applicable to this Review:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ Result is estimated quantity but the result may be biased high.

J- Result is estimated quantity but the result may be biased low.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NJ The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.

B The analyte was detected in the method, field, and/or trip blank.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

1. Were all the analyses requested for the samples submitted with each COC completed by the lab?		Yes **X**	No
Comments:			
2. Did the laboratory identify any non-conformances related to the analytical result?		Yes **X**	No
Comments: The laboratory noted in the case narrative that samples with out-of-control surrogate spike recoveries were confirmed unless attributed to dilution. Specific samples are discussed in this DUSR under item 10, below.			
3. Were sample Chain-of-Custody forms complete?		Yes **X**	No
Comments: Samples were listed on two chains-of-custody (COCs), COC #'s 534118 and 534120.			
4. Were samples received in good condition and at the appropriate temperature?		Yes **X**	No
Comments: The laboratory noted on the Sample Administration Receipt Documentation Log that the shipping container was not sealed and there was no custody seal present when the samples were received.			
5. Were sample holding times met?		Yes **X**	No
Comments:			
6. Were correct concentration units reported?		Yes **X**	No
Comments: Results for all soil samples were reported in units of milligrams per kilogram (mg/kg).			
7. Were detections found in laboratory blank samples?		Yes	No **X**
Comments:			
8. Were detections found in field blank, equipment rinse blank, and/or trip blank samples?	NA **X**	Yes	No
Comments: No field blanks were submitted in this sample delivery group (SDG).			
9. Were instrument calibrations within method criteria?	NA **X**	Yes	No
Comments: Not Applicable, Level 2 data validation.			

10. Were surrogate recoveries within control limits?		Yes	No **X**
Comments: High percent recovery (%R) was reported for the surrogate decachlorobiphenyl (DCB) in the sample E-6(2.5-2.8) (DCB=167%), Recovery resulted from high sample dilution required for analysis (dilution factor=100X); therefore, no corrective action was required. No data were qualified since the surrogate spike was diluted out. The %Rs for the surrogates tetrachloro-m-xylene (TCX) and DCB in the sample E-6(0.0-0.3) (TCX=56%, DCB=46%) were below the internal laboratory control limits of 61-152% for TCX and 48-164% for DCB, but were within the control limits of 30-150% published in the 2014 USEPA National Functional Guidelines (NFGs) for Superfund Organic Methods Data Review. Since the surrogate recoveries were within the control limits in the NFGs, no data were qualified.			
11. Were laboratory control sample(s) (LCS/LCSD) sample recoveries within control limits?		Yes **X**	No
Comments:			
12. Were matrix spike (MS/MSD) recoveries within control limits?	NA	Yes **X**	No
Comments: The sample E-5(6.5-6.8) was analyzed as the site-specific MS/MSD for soil samples in batch 171950016A. All percent recoveries (%Rs) were within control limits.			
13. Were RPDs within control limits?		Yes **X**	No
Comments: .			
14. Were dilutions required on any samples?		Yes **X**	No
Comments: Three samples required dilution prior to analysis, with dilution factors ranging from 5X to 100X. Sample reporting limits were adjusted accordingly. No data were qualified.			
15. Were Tentatively Identified Compounds (TIC) present?	NA **X**	Yes	No
Comments: TIC not requested.			
16. Were organic system performance criteria met?	NA **X**	Yes	No
Comments: Not Applicable, Level II data validation.			
17. Were GC/MS internal standards within method criteria?	NA **X**	Yes	No
Comments: Not Applicable, Level II data validation.			

18. Were inorganic system performance criteria met?	NA	Yes	No
		X	
Comments:			

19. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	Yes	No
	X	

Duplicate Sample ID	Primary Sample No.
DUP-40	E-5(6.0-6.3)

Comments:
Aroclor 1260 was detected in the field duplicate, but not in the parent sample, so no RPD was calculated. No data were qualified based on the field duplicate results for this pair.

20. Were at least 10 percent of the hard copy results compared to the Electronic Data Deliverable Results?	Yes	No	Initials
	X		KEF
Comments:			

21. Other?	Yes	No
		X

Comments:
All samples were validated according to the USEPA 2014 NFGs and DNREC SOPCAP. All data are considered usable as qualified. No data have been rejected.

PRECISION, ACCURACY, METHOD COMPLIANCE AND COMPLETENESS ASSESSMENT

Precision:	Acceptable X	Unacceptable	Initials JET
Comments:			
Sensitivity:	Acceptable X	Unacceptable	Initials JET
Comments:			
Accuracy:	Acceptable X	Unacceptable	Initials JET
Comments:			
Representativeness:	Acceptable X	Unacceptable	Initials JET
Comments:			
Method Compliance:	Acceptable X	Unacceptable	Initials JET
Comments:			
Completeness:	Acceptable X	Unacceptable	Initials JET
Comments:			